

REMARKS/ARGUMENTS

Reconsideration of the application is respectfully requested.

Status of Claims

Claims 8-14 are pending in the application, with claim 8 being the only independent claim.

Overview of the Office Action

Claims 8 and 10-14 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,765,294 (Puschnerat) in view of U.S. Patent No. 5,524,805 (Shiba) and U.S. Patent No. 5,447,566 (Loiacono).

Claim 9 stands rejected under 35 U.S.C. §103(a) as unpatentable over Puschnerat in view of Shiba, Loiacono and JP 07-227952 (Takao).

Summary of Subject Matter Disclosed in the Specification

The following details are based on the specification and are provided only for the convenience of the Examiner as part of the discussion presented herein. Such details are not intended to argue limitations which are unclaimed.

Conventional rotary presses are known to have a problem that an undried printed paper surface may come into contact with a guide roller causing ink to adhere to the guide roller. That ink can then transfer back to a paper surface, thereby contaminating the printed paper. See Specification, paragraph [0003]. Conventional ink transfer preventing measures cannot eliminate ink transferred onto the guide roller surface completely and hence require the guide roller to be

washed periodically, they are costly, and/or have other shortcomings. See Specification, paragraph [0005].

The disclosed embodiments of the present application provide a rotary press capable of preventing a printing color from contaminating any color different from it. This is accomplished, according to one embodiment of the application, with a rotary press having a printing unit comprised of a set of printing cylinders, a dryer disposed downstream of the printing unit for drying printed paper, a guide roller for guiding the printed paper from the printing unit into the dryer, and a drive unit that drives the guide roller. The guide roller has a diameter which is equal to, or an integral multiple of, a diameter of the printing cylinder in the printing unit. Also, the guide roller is driven to rotate synchronously with the printing cylinder and at a peripheral speed that is identical to that at which the printing cylinder is rotated. In this way, the guide roller is always contacted by an identical portion of an image printed onto the paper. As a result, print on the paper will not contaminate any color other than a printing color. See Specification, paragraphs [0022] to [0027].

Remarks/Arguments

Claim 8

Claim 8 is patentable over Puschnerat in view of Shiba and Loiacono because the combined Puschnerat, Shiba and Loiacono fail to teach or suggest all of the limitations of claim 8.

There are three elements recited in claim 8 that are missing from Puschnerat. First, as the Examiner acknowledged in the Office Action (page 2), Puschnerat does not disclose or teach a guide roller having a diameter which is equal to, or an integral multiple of, a diameter of the printing cylinder. Second, Puschnerat does not disclose or teach a drive unit drivingly coupled to the guide

roller. Third, in Puschnerat the guide roller is not rotated synchronously with the printing cylinder and at a peripheral speed that is identical to that at which the printing cylinder is rotated.

The Examiner attempted to bridge the first gap by citing to Loiacono and stating that the guide rollers 28, 32, 50, 52 and 54 shown in Fig. 3 of Loiacono "appear" to have diameters which are equal to the diameter of the printing cylinder. This interpretation, however, is impermissible.

It is well-established that "patent drawings do not generally define the precise proportions of the elements depicted therein and therefore may not generally be relied on to show particular sizes if the specification is completely silent on the issue." Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000) (citing In re Wright, 569 F.2d 1124, 1127, 193 USPQ 332, 335 (C.C.P.A. 1977)) ("Absent any written description in the specification of quantitative values, arguments based on measurement of a drawing are of little value"); In re Olson, 212 F.2d 590, 592, 101 USPQ 401, 402 (C.C.P.A. 1954)).

Here, the specification of Loiacono is completely silent on this feature. This feature is not disclosed or taught in Loiacono, nor did the Examiner cite any support for it in the specification or the claims of Loiacono. In fact, Loiacono does not discuss or mention the diameter of the guide rollers 28, 32, 50, 52 and 54 at all. This is understandable because they are just passive idler rollers. See col. 5, lines 30-34 ("idler roller 28," "idler roller 32"); col. 6, lines 19-29 ("idler roller 50," "idler roller 52"); claim 1 ("a plurality of idler rollers"). As such, they do not need to have a particular diameter. Nor is there any disclosure or suggestion in Loiacono that the idle rollers have any particular diameter or, in particular, any diameter relationship relative to the printing cylinders. In the absence of an explicit discussion of this feature in the specification, it is legally impermissible to conjecture that Loiacono discloses or teaches a guide roller having a diameter that is equal to, or an integral multiple of, a diameter of a printing cylinder in the printing unit. This is especially true

where in Fig. 2 of Loiacono the guide roller 28 appears to have a diameter which is smaller than the diameter of the printing cylinder 46'.

The Examiner attempted to bridge the second and third gaps by using Shiba. Shiba, however, does not disclose or teach that the guide roller is rotated synchronously with the printing cylinder and at a peripheral speed that is identical to that at which the printing cylinder is rotated.

Although Shiba uses a speed control unit 21 to control the speed of the web feed roller R with the required value in response to the main drive speed (col. 5, lines 12-15), this does not mean that in Shiba the web feed roller R is rotated synchronously with the main drive or the printing cylinder and at a peripheral speed that is identical to that at which the main drive or the printing cylinder is rotated. Shiba is silent on these features. Furthermore, Shiba explicitly teaches that when the surface of the web feed roller R is spoiled by ink or dust, "the speed control unit 21 will change the rotating speed of the web feed roller R to generate slight slipping between the surface of the web feed roller R and the paper web surface." Col. 5, lines 38-51. The slipping will most likely cause ink contamination on the printed paper, a situation which the present invention is designed to avoid.

Claim 8 is also patentable over Puschnerat in view of Shiba and Loiacono because there is no suggestion or motivation to combine the Puschnerat, Shiba and Loiacono in the way proposed in the Office Action. None of the applied references recognizes or addresses the ink contamination issue the present invention addresses.

Psuchnerat teaches a method and apparatus for feeding and drying a wide printed paper web in which the wide printed paper web is divided longitudinally after a final printing unit and prior to entry into a drying device. Col. 1, lines 10-15. The object is to prevent the formation of longitudinal folds and creases. See col. 2, lines 18-24.

Matching the rotational speed of the guide rollers with that of the printing cylinders is not sufficient. The diameters also have to be equal so that identical images printed on the paper will contact the same area of the guide rollers. If both are not matched, undried identical images printed on the paper will contact different areas of the guide rollers, causing ink contamination.

As discussed in Applicant's response of April 18, 2005, the object of Loiacono is to prevent paper from curling and stretching.

Shiba teaches an actively driven web feed roller. The object of Shiba is to smoothly feed the paper web without applying excess tension force onto the paper web. See col. 5, lines 15-18. Therefore, when the surface of the web feed roller R is spoiled by ink or dust, a speed control unit will change the rotating speed of the web feed roller to generate slight slipping between the surface of the web feed roller and the paper web surface to avoid excessive tension on the paper web. Col. 5, lines 38-51. Thus, Shiba teaches away from the claimed invention because Shiba's solution will most likely cause ink contamination.

As discussed above, the present invention eliminates the ink contamination problem caused by undried printing ink on a paper surface that may come into contact with a guide roller which might then transfer back to another part of the paper surface, thereby contaminating the printed paper or print. Such a problem has not been recognized, let alone addressed, by Psuchnerat, Loiacono or Shiba. Thus, a person of ordinary skilled in the art would have no motivation or suggestion to combine Psuchnerat with Loiacono and Shiba in the way proposed in the Office Action. The fact that something can be done is an insufficient basis to obviate an invention. Absent a motivation, the references can be revised and/or combined in the way proposed in the Office Action only with impermissible hindsight based on the present invention.

Recognition of the problem being solved is important when considering the issue of obviousness under 35 U.S.C. §103. There is a line of CAFC cases dealing with the relevance of the problem being solved in determining obviousness. In re Dillon, 892 F.2d 1554 (Fed. Cir. 1989). In re Wright, 848 F.2d 1216 (Fed. Cir. 1988) states the following:

"The determination of whether a novel structure is or is not 'obvious' requires cognizance of the properties of that structure and the problem which it solves, viewed in light of the teachings of the prior art." (emphasis added).

It is respectfully submitted that claim 8 is not obvious over the references of record.

Withdrawal of the §103 rejection of claim 8 is therefore respectfully requested.

Claims 9-14

Dependent claims 9-14 are patentable for at least the same reasons that independent claim 8 is patentable, as well as for the additional limitations recited therein.

The Examiner's reading of Takao is incorrect. In Takao, an upper paper web A is printed by four printing units 3a-3d, and then is fed into a dryer 4a. Similarly, a lower paper web B is printed by four printing units 3e-3h, and then is fed into the dryer 4a. See Fig. 1. Thus, Takao discloses that each web passes through four printing units. Takao does not disclose or suggest that "one web which is printed through a printing unit that is disposed farthest downstream passes directly into the drier, and each of said plurality of webs other than said one web is guided by a guide roller disposed downstream of each of the respective printing units so as to bypass such printing units and said printing unit disposed farthest downstream and then to travel into the dryer."

Withdrawal of the §103 rejection of claims 9-14 is respectfully requested.

Conclusion

Based on all of the above, it is respectfully submitted that the application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,

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